

CLAIMS

1. A method of forming a composite panel comprising the steps of:
supplying a material to a forming station;
supplying a dry additive to the material at the forming station;
producing a mat comprising the material and the additive; and
applying heat and pressure to the mat to produce a composite panel.
2. The method of claim 1, wherein the material comprises wood elements.
3. The method of claim 2, wherein the wood elements comprise strands of wood.
4. The method of claim 1, wherein the additive is a binder.
5. The method of claim 4, wherein the binder is a resin.
6. The method of claim 1, wherein the forming station includes a plurality of doffing rolls, the additive being supplied to the material at the doffing rolls.
7. The method of claim 1, wherein the dry additive is supplied to the forming station by a dry material application assembly.
8. The method of claim 7, wherein the dry material application assembly comprises a fluidized bed and a pumping assembly.

9. The method of claim 1, wherein the panel comprises oriented strand board.
10. The method of claim 1, wherein the additive comprises wax.
11. The method of claim 1, wherein the additive comprises a fire retardant.
12. A method of forming a composite panel comprising the steps of:
supplying wood elements to a forming station;
adding a dry binder to the wood elements at the forming station;
producing a mat comprising the wood elements and the binder; and
applying heat and pressure to the mat to form a composite panel.
13. The method of claim 12, wherein the wood elements are strands of wood and the panel is an oriented strand board.
14. The method of claim 12, wherein the binder comprises a resin.
15. The method of claim 14, wherein the resin is a spray dried phenolic resin.
16. The method of claim 12, wherein the forming station includes a plurality of doffing rolls, the binder being supplied to the material at the doffing rolls.

17. The method of claim 12, wherein the binder is supplied to the forming station by a dry material application assembly.
18. An apparatus for forming a composite panel comprising, in combination:
a reservoir of raw material;
at least one forming station configured to form a mat of the raw material;
a dry material dispensing assembly to introduce an additive to the forming station;
and
a press to apply heat and pressure to transform the mat into a panel.
19. The apparatus of claim 18, further comprising a conveying assembly to transfer the mat from the forming station to the press.
20. The apparatus of claim 18, wherein the dry material dispensing assembly comprises a fluidized bed and a pumping assembly.
21. The apparatus of claim 20, wherein the pumping assembly includes a plurality of pumps connected to a header, and a plurality of conduits connected to the header to carry the additive to the at least one forming station.
22. The apparatus of claim 18, wherein each forming station includes a plurality of doffing rolls to distribute the raw material.

23. The apparatus of claim 22, wherein the dry material dispensing assembly is configured to introduce the additive at the doffing rolls.
24. An apparatus for forming oriented strand board comprising, in combination:
a reservoir of wood strands;
at least one forming station to form a mat out of the wood strands;
a plurality of doffing rolls housed in each forming station and configured to present a substantially uniform flow of the wood strands as the mat is formed;
a dry material dispensing assembly to introduce an additive at the doffing rolls;
and
a conveying assembly to transfer the mat to a press that includes a heat source and a pressure source configured to form a panel of oriented strand board from the mat.
25. The apparatus of claim 24, wherein the additive is a powdered material.
26. The apparatus of claim 24, wherein the additive is a resin.
27. The apparatus of claim 24, wherein the dry material dispensing assembly includes a fluidized bed and a pumping assembly.
28. The apparatus of claim 27, wherein the pumping assembly includes a plurality of pumps connected to a header, and a plurality of conduits connected to the header to carry the additive to the doffing rolls.